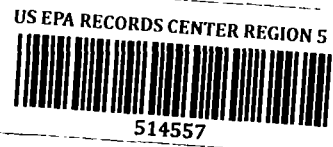


Pankam/Leung

APPENDIX E
MODEL WORKSHEETS



Site Name: Reilly-TAR Chemical Co.
Location: St. Louis Park MN
EPA Region: IV
Person(s) in Charge of the Site: Jack BRAUN Federal OSC
Rich Ferguson - MPCA
Name of Reviewer: Jack BRAUN / Rich Ferguson
Site Overall Score: 59.14

General Description of the Site:
(For example: landfill, surface impoundment, pile, container; types of wastes; location of the site; contamination route of major concern; types of information needed for rating, agency action, etc.)
Note that this is a revised
estimate, resulting in a higher
score. This is also the State
designated - high priority site.

ROUTE - SURFACE WATER

Rating Factor	Basis of Information	Site Rating (Circle One)	Multiplier	Site Score	Maximum Possible Score
1 OBSERVED RELEASE <small>per SW 1)</small>					
Measured level or evidence of release		0 45	1	45	45
If the site score is zero, go to step 2 otherwise, go to step 5					
2 ROUTE CHARACTERISTICS <small>per SW 2)</small>					
Site Slope and Terrain		0 1 2 3	1		3
1 Year 24 Hour Rainfall		0 1 2 3	1		3
Distance to Surface Water		0 1 2 3	1		3
Flood Potential		0 1 2 3	2		6
Subtotal					9
3 CONTAINMENT <small>per SW 3)</small>					
Containment		0 1 2 3	1		3
4 POTENTIAL FOR RELEASE					
Multiply site score from 2 by site score from 3. The product is site rating for this route.			1		45
5 RELEASE					
Enter site score from 1 or 4				45	45
6 WASTE CHARACTERISTICS <small>per SW 4)</small>					
Physical State		0 1 2 3	1	3	3
Toxicity/Infectiousness		0 1 2 3	2	6	6
Persistence		0 1 2 3	2	6	6
Subtotal				15	15
7 HAZARDOUS WASTE QUANTITY <small>per SW 5)</small>					
Total Waste Quantity		0 1 2 3 4 5	1	5	5
<small>by Superfund definitions excluding waste that is totally contained</small>					
8 TARGETS <small>per SW 6)</small>					
Surface Water Use		0 1 2 3	3	6	9
Critical Habitats		0 1 2 3	2	4	6
Population Served by Surface Water With Water Intake Within 3 Miles Downstream From Site		0 1 2 3 4 5	6	0	30
Subtotal				10	45
9 SURFACE WATER ROUTE SUBTOTAL					
A. Multiply 5 x 6 x 7 x 8				33,750	151,875
B. Multiply [A.] by normalization factor of 0.64 and divide by 1,000				0.64	21.6 <small>(B.1 Route Subtotal)</small>
				21.6	97.2

ROUTE - GROUND WATER

Rating Factor	Basis of Information	Site Rating (Circle One)	Multiplier	Site Score	Maximum Possible Score
1 OBSERVED RELEASE <small>per GW 1</small>					
Measuring Level or Evidence of Release		0 (45)	1	45	(45)
If the site score is zero, go to step 2 otherwise, go to step 5					
2 ROUTE CHARACTERISTICS <small>per GW 2</small>					
Depth to Aquifer of Concern		0 1 2 3	2		6
Net Precipitation		0 1 2 3	1		3
Permeability of Unsaturated Zone		0 1 2 3	2		6
Subtotal					15
3 CONTAINMENT <small>per GW 3</small>					
Containment		0 1 2 3	1		3
4 POTENTIAL FOR RELEASE					
Multiply site score from 2 by site score from 3. The product is site rating for this route.			1		45
5 RELEASE					
Enter site score from 1 or 4				45	45
6 WASTE CHARACTERISTICS <small>per GW 4</small>					
Physical State	CREOSOTING OPS	0 1 2 3	1	3	3
Persistence	TABLE D-2	0 1 2 3	2	6	6
Toxicity/Infectiousness	TABLE	0 1 2 3	2	6	6
Subtotal				15	15
7 HAZARDOUS WASTE QUANTITY <small>per GW 5</small>					
Total Waste Quantity		0 1 2 3 4	1	5	5
<small>(By Superfund definitions excluding waste that is totally contained)</small>					
8 TARGETS <small>per GW 6</small>					
Ground Water Use		0 1 2 3	3	9	9
Distance to Nearest Well Using Aquifer		0 1 2 3	3	9	9
Population Served by Ground Water Within 3 Mile Radius		0 1 2 3 4	6	30	30
Subtotal				48	48
9 GROUND WATER ROUTE SUBTOTAL					
A. Multiply 8x6x7x8				162,000	162,000
B. Multiply [A.] by Normalization Factor of 0.6 and Divide by 1,000				0.6	97.2
				19 Route Subtotal	97.2

¹A rating of zero should be entered when data is unavailable to rate an additive factor. A rating of 1 should be entered when data is unavailable to rate a multiplicative category such as the waste quantity or containment. A total of 2% missing data for the entire site is allowed when rating a site.

²If the site has more than one type of containment (e.g., surface impoundment, tanks, containers, consider all cases separately and enter the score from the worst case.

³Rate the five most hazardous wastes. Select the one with the highest subtotal score and enter that score.

10 AGGREGATE SITE RATING			
Route	Route Subtotal from 6, 8 or 9	Route Subtotal Squared	Maximum Possible Score
Ground Water	97.2	9447.84	$(97.2)^2 = 9447.84$
Surface Water	21.6	466.56	$(97.2)^2 = 9447.84$
Air	0	0	$(97.2)^2 = 9447.84$
Fire and Explosion	—	—	$(97.2)^2 = 9447.84$
Direct Contact	—	—	$(97.2)^2 = 9447.84$
Sum		9914.40	47239.2
Square root of Sum		99.57	$168.36^{217.35}$
Overall Score* = $\left(\frac{\sqrt{\text{sum}} \times 100}{217.35} \right)$		59.14	100

*The overall score will be between 0 and 100.
Exposure Route is 44.7.

The Maximum Overall Score for a Site With Only One

Reilly Tar and Chemical Site in St. Louis Park, Minnesota

Proposed Super Fund Site Project

Over the past five to ten years, over forty-five studies have been performed addressing the many issues associated with the Reilly-Tar Chemical Site. A summary report (Attachment #1) compiles much of this information.

From 1917 to 1970 Reilly-Tar Chemical Company refined coal tar and treated wood with creosote. They occupied an 80-acre site in St. Louis Park, Minnesota. (See Attachment #2). This is a western suburb of Minneapolis. (See Attachment #3). The City purchased the land in 1970, upon the closing and demolition of existing structures. The site is presently vacant land with a condominium constructed at one corner. Over the past several years, the many studies have identified the threat to public health, the contamination of groundwater and soil and a list of remedial actions needed to correct this dangerous situation. The main contaminant involved at the site is Polynuclear Aromatic Hydrocarbon. This group includes phenols and creosote. There is a heavily contaminated area of soil on the site itself, extending offsite in the area of surface drainage. During the years of operation, Reilly utilized several storage lagoons. The site of these lagoons is also highly contaminated. The complex groundwater situation has contributed to the contamination of groundwater within a two to three mile radius of the site, including several different aquifers.

Based on the above reports six remedial actions have been identified as needed to clean up the contaminants. These projects include:

	<u>ESTIMATED 'WORST CASE' REMEDIAL COSTS</u>
1. Remove contaminated soil	193,000,000
2. On-site deep well remedial actions	209,000
3. Well Abandonment Program	109,400
4. Drinking Water/Well Treatment Program	10,188,000
5. Barrier Well System	51,754,000
6. Long-Term Monitoring Program * WELL FIELD MGMT	16,609,400

Total 271,860,800

(Includes 10%
contingency)

Environmental Response, Compensation, and Liability Act (the "Superfund Act"), Public Law 96-510, seeking reimbursement of its response costs, abatement of the soil and ground water contamination, and natural resource damages. Reilly Tar responded to this letter on March 27, 1981, denying it had any liability under the Superfund Act.

The State and USEPA are continuing prosecution of claims against Reilly Tar under RCRA, the Superfund Act, and State law.

ENFORCEMENT COORDINATION

A pending civil action against Reilly Tar in Minnesota District Court was amended by the State of Minnesota in 1978 to include claims based on newly discovered ground water contamination. The district court denied Reilly Tar's motions to dismiss the State complaint and to substitute the City of St. Louis Park as a defendant. Interlocutory review of these rulings was denied by the Minnesota Supreme Court. During 1979-80, substantial discovery by both sides took place.

In September, 1980, the United States filed an action against Reilly Tar in Federal court under the imminent and substantial endangerment provision of §7003 of RCRA, 42 U.S.C. §6973. The State moved to intervene as a plaintiff on the RCRA claim and to assert as pendent claims the State law violations already filed in Minnesota district court. The State's motion was granted in October, 1980. Reilly Tar subsequently moved for dismissal of the State and Federal claims under §7003. The parties are currently briefing that motion.

On February 25, 1981, EPA announced that the funds which are the subject of this application would be used for the Reilly Tar project and, on the same date, the United States Attorney for Minnesota served a demand letter on Reilly Tar relating to the activities proposed. On March 3, 1981, Reilly Tar responded to the demand letter, refusing to undertake any action and stating that the proposed activities were not authorized, appropriate, or necessary. On February 25, 1981, the USEPA through the Department of Justice served a demand letter on Reilly Tar under §112(a) of the Comprehensive

Verification of Information

Over the past five to ten years, over forty-five different studies have been performed addressing the many issues associated with the Reilly-Tar Chemical Site.

During 1979-1980, U.S. EPA Region V Enforcement Division prepared a report summarizing the previous works. This summary report, which is located in Region V and Headquarters Superfund files, serves as the basis for verifying the information contained in the Mitre scoring. Of course, the complete studies are also available and documented.

In addition, an aerial photograph survey was performed by the U.S. EPA lab in Las Vegas. This photo analysis from 1937 to date can be used to verify distances, surface waters, and sensitive environmental areas.

Finally, our Field Investigation Team (FIT) prepared a worst case analysis for the cost figures for cleaning up the site. This report, also in our files, was completed in late 1980.

Prior to Federal involvement, the Minnesota Pollution Control Agency (MPCA) and the Minnesota Health Department (MHD) have been the main agencies involved in the project. The USEPA Enforcement Division has been involved in the project for several years and on September 4, 1980 joined MPCA and St. Louis Park in a law suit against Reilly-Tar.

Based upon a rather rapid, but comprehensive series of meetings between USEPA, MPCA, MHD, and other agencies it was determined that planning for three of the six remedial actions, discussed above, could be accelerated to meet the needs of the Superfund Program Requirements. This accelerated planning which will result in plans and specifications being ready by June 1, 1981 is dependent upon the availability of Headquarters Supplemental funds. The three remedial actions atune to accelerated planning include:

1. Well abandonment program
2. On-Site well remedial actions
3. Drinking water treatment project

